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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/033,338	12/28/2001	Sridhar Gollamudi	5-20	7159

7590 10/17/2006

Docket Administrator (Room 3J-219)
Lucent Technologies Inc.
101 Crawfords Corner Road
Holmdel, NJ 07733-3030

EXAMINER	
AGHDAM, FRESHTEH N	
ART UNIT	PAPER NUMBER
2611	

DATE MAILED: 10/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/033,338	GOLLAMUDI ET AL.	
	Examiner	Art Unit	
	Freshteh N. Aghdam	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 August 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2,4,7,10-12 and 15-20* is/are rejected.

7)☒ Claim(s) *3, 5-6, 8-9, and 13-14* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments, see page 7, filed 8/9/2006, with respect to the rejection(s) of claim(s) 1-20 under Razavilar et al and Nanda, further in view of Shibutani have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Nanda et al, and further in view of Razavilar et al.

Claim Rejections - 35 USC § 101

Claims 2-20 are rejected as being under 35 U.S.C. 101 because: as to claim 2, the claimed invention is directed to a non-statutory subject matter because as a whole it does not accomplish a practical application. In order to accomplish a practical application, it must produce a: useful, concrete and tangible result." (see Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility, pages 21-22) In other words, the tangible requirement does require that the claim must recite more than a 101 judicial exception. It is for the discovery or invention of some practical method or means of producing a beneficial result or effect, that a patent is granted see Corning, 56 U.S. (15 How.) at 268, 14 L.Ed. 683. Applicant in claim 2, recites a method, however, there is no tangible result disclosed for this method.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 2, 4, 7, 10-12, and 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nanda et al (US 6,5,842,113), and further in view of Razavilar et al (US 2003/0104831).

As to claims 2, 16, and 19-20, Nanda teaches an adaptive link adaptation method, in which the channel condition threshold is adjusted (i.e. increased or decreased) based on an error detection result using a variable step size (Fig. 5-7; Col. 3, Lines 45-67; Col. 4, Lines 1-50; Col. 5, Lines 1-20 and 49-67; Col. 6, Lines 1-39). The channel condition threshold is adjusted by a variable step size (Col. 3, Lines 45-67), wherein the variable step size is determined using a desired frame error rate (Col. 3, Lines 40-49). Nanda teaches that the channel condition threshold is based on the data frame rate (Fig. 5-7). Nanda is not explicit about the channel condition threshold being based on a modulation and coding scheme level used in the data packet. However, one of ordinary skill in the art would clearly recognize that since the data rate is a function of modulation and coding scheme; therefore, the channel condition threshold is based on a modulation and coding scheme level. Razavilar teaches an adaptive quality control loop for a rate adaptation based on modulation and coding scheme (MCS) levels and

multiple spreading codes comprising adjusting the nth iteration channel condition threshold 412 based on the nth iteration error detection result 410 for the nth iteration data packet transmission between a transmitter and a receiver 620 using the nth variable step 612 and 614 responsive to the error detection portion, wherein the nth channel condition threshold is associated with the nth modulation and coding scheme level used in the first data packet transmission (Fig. 4 and 6; Pg. 8, Par. 72, 73, 77, and 79). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teaching of Razavilar with Nanda in order to improve data transmission by determining the channel condition threshold based on the modulation and coding scheme level.

As to claims 4 and 7, Razavilar and Nanda teach all the subject matter claimed above, except for the desired MCS error rate is based on a bit error rate and/ or block error rate. Nanda teaches that the desired MCS error rate is based on a frame error rate. One of ordinary skill in the art would clearly recognize that estimating the level of performance of a communication system using any of the frame, block, or bit error rate is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art to employ the block or bit error rate instead of the frame error rate as the desired criterion in order to estimate the level of performance of the system.

As to claim 10, Nanda further teaches that the variable step size is determined based on the desired frame error rate and the frame rate (Fig. 7). Razavilar and Nanda are explicit about the desired MCS error rate is based on a bit error rate and/ or block error rate. Nanda teaches that the desired MCS error rate is based on a frame error

rate. One of ordinary skill in the art would clearly recognize that estimating the level of performance of a communication system using any of the frame, block, or bit error rate is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art to employ the block or bit error rate instead of the frame error rate as the desired criterion in order to estimate the level of performance of the system.

As to claim 11, Razavilar and Nanda teach all the subject matter claimed above, except for the first variable size step is associated with a first variable size up step and a first variable size down step, the first channel condition threshold being increased an amount based on the first variable size up step if the first error detection result indicates the first data transmission was unsuccessful, the first channel condition threshold being decreased an amount based on the first variable step size down if the first error detection result indicates the first data transmission was successful. Nanda further teaches that the first variable size step is associated with a first variable size up step and a first variable size down step, the first channel condition threshold being increased an amount based on the first variable size up step if the first error detection result indicates the first data transmission was unsuccessful, the first channel condition threshold being decreased an amount based on the first variable step size down if the first error detection result indicates the first data transmission was successful (Fig. 3 and 5-7; Col. 3, Lines 50-67; Col. 4, Lines 1-4). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teaching of Nanda with Razavilar and Lundby in order to transmit information more efficiently by incrementing or decrementing the channel condition threshold as a function of the error detection unit.

As to claim 12, Nanda further teaches that the variable step size is determined based on the desired frame error rate and the frame rate (Fig. 7). Razavilar and Nanda are explicit about the desired MCS error rate to be based on a bit error rate and/ or block error rate. Nanda teaches that the desired MCS error rate is based on a frame error rate. One of ordinary skill in the art would clearly recognize that estimating the level of performance of a communication system using any of the frame, block, or bit error rate is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art to employ the block or bit error rate instead of the frame error rate as the desired criterion in order to estimate the level of performance of the system.

As to claim 15, Nanda further teaches that the ratio between the first variable up step and the first variable down step are based on a desired MCS error rate (Col. 4, Lines 1-4).

Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Razavilar et al and Nanda, further in view of Shibutani (US 2002/0193133).

As to claim 17, Razavilar and Nanda teach all the subject matter as recited in claim 1, except for selecting a second MCS level based on an estimation of channel condition between the receiver and transmitter using a table having the adjusted first channel condition threshold. Shibutani teaches selecting MCS levels based on the corresponding adjusted channel conditions (table 2; Pg. 5, Par. 50) as it is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teaching of Shibutani with Razavilar and Nanda in order to convert the

received channel condition information into a data rate for more accurately and efficiently transmitting information (Pg. 5, Par. 50).

As to claim 18, Nanda further teaches that transmitting a different data frame with a different rate (Fig. 7). However, one of ordinary skill in the art would clearly recognize that since the data rate is a function of modulation and coding scheme; therefore, the channel condition threshold is based on a modulation and coding scheme level.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Freshteh N. Aghdam whose telephone number is (571) 272-6037. The examiner can normally be reached on Monday through Friday 9:00-5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on (571) 272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Freshteh Aghdam
September 29, 2006

KEVIN BURD
PRIMARY EXAMINER